

IN THE CLAIMS

Please amend the claims as follows:

Claim 1 (Currently Amended): A semiconductor device comprising:

a first conductive type semiconductor region formed in a semiconductor substrate;

a gate electrode formed on said first conductive type semiconductor region;

a channel region formed immediately below said gate electrode in said first conductive type semiconductor region; and

a second conductive type first diffusion layer constituting source/drain regions formed at opposite sides of said channel region in said first conductive type semiconductor region,

said gate electrode being formed of polycrystalline silicon-germanium, in which germanium concentration ~~of at least one of a source side and a drain side is higher than that of a central portion~~ is continuously increased from a drain side to a source side.

Claims 2-3 (Canceled).

Claim 4 (Currently Amended): The semiconductor device according to claim 1, further comprising a second ~~conductive~~ conductive type second diffusion layer formed between said first diffusion layer and said channel region in said first conductive type semiconductor region and having a lower impurity concentration and a shallower depth than said first diffusion layer.

Claim 5 (Original): The semiconductor device according to claim 1, further comprising a gate sidewall of an insulating material formed at a side portion of said gate electrode, wherein an oxide layer is formed between said gate sidewall and an edge of said gate electrode having a higher germanium concentration.

Claim 6 (Currently Amended): A semiconductor device comprising:

- a first conductive type semiconductor region formed in a semiconductor substrate;
- a gate electrode of polycrystalline silicon-germanium formed on said first conductive type semiconductor region;
- a channel region formed immediately below said gate electrode in said first conductive type semiconductor region;
- a second conductive type first diffusion layer constituting source/drain regions formed at opposite sides of said channel region in said first conductive type semiconductor region;
- and
- an oxide layer formed on ~~at least one of said a source region side and a drain region side~~ of said gate electrode,
- a germanium concentration in a region with a thickness substantially identical to the thickness of said oxide layer, ranging from the side of said gate electrode where said oxide layer is formed, is 1.5 to 2 times the germanium concentration of a central portion of said gate electrode and the germanium concentration of said gate electrode being continuously decreased from the source side to a drain side.

Claims 7-8 (Canceled).

Claim 9 (Currently Amended): The semiconductor device according to claim 6, further comprising a second ~~conductive~~ conductive type second diffusion layer formed between said first diffusion layer and said channel region in said first conductive type semiconductor region and having a lower impurity concentration and a shallower depth than said first diffusion layer.

Claim 10 (Currently Amended): A semiconductor device comprising:

a first MISFET including:

a first conductive type first semiconductor region formed in a semiconductor substrate;

a first gate electrode formed on said first semiconductor region;

a first channel region formed immediately below said first gate electrode in said first semiconductor region; and

a second conductive type first diffusion layer constituting source/drain regions formed at opposite sides of said first channel region in said first conductive type semiconductor region; and

a second MISFET including:

a second conductive type second semiconductor region formed in the semiconductor substrate and isolated from said first semiconductor region;

a second gate electrode formed on said second semiconductor region;

a second channel region formed immediately below said second gate electrode in said second semiconductor region; and

a first conductive type second diffusion layer constituting source/drain regions formed at opposite sides of said second channel region in said second conductive type semiconductor region,

said first and second gate electrodes being formed of polycrystalline silicon-germanium, in which germanium concentration ~~of at least one of a source side and a drain side is higher than a central portion~~ is continuously increased from the drain side to the source side.

Claims 11-12 (Canceled).

Claim 13 (Withdrawn): A method of manufacturing a semiconductor device comprising:

forming a gate electrode containing polycrystalline silicon-germanium on a first conductive type semiconductor region in a semiconductor substrate;

selectively forming a first insulating layer on said gate electrode such that a portion near one side of said gate electrode is exposed; and

forming an oxide layer by selectively oxidizing silicon near the exposed side of said gate electrode.

Claim 14 (Withdrawn): The method of manufacturing a semiconductor device according to claim 13, further comprising:

forming a second conductive type first diffusion layer after the forming of the oxide layer by removing the first insulating layer and performing ion-implantation of a second conductive type impurity in the semiconductor region using the gate electrode as a mask.

Claim 15 (Withdrawn): The method of manufacturing a semiconductor device according to claim 13, further comprising:

forming a gate sidewall of an insulating material at a side portion of the gate electrode after the forming of the first diffusion layer; and

forming a second conductive type second diffusion layer constituting source/drain regions by performing ion-implantation of a second conductive type impurity in the semiconductor region using the gate electrode and the gate sidewall as masks.

Claim 16 (Withdrawn): A method of manufacturing a semiconductor device comprising:

forming a gate electrode containing polycrystalline silicon-germanium on a first conductive type semiconductor region in a semiconductor substrate; and

forming an oxide layer all over the gate electrode by selectively oxidizing silicon in the gate electrode.

Claim 17 (Withdrawn): The method of manufacturing a semiconductor device according to claim 16, further comprising:

forming a second conductive type first diffusion layer after the forming of the oxide layer by performing ion-implantation of a second conductive type impurity in the semiconductor region using the gate electrode as a mask.

Claim 18 (Withdrawn): The method of manufacturing a semiconductor device according to claim 16, further comprising:

forming a gate sidewall of an insulating material at a side portion of the gate electrode after the forming of the first diffusion layer; and

forming a second conductive type second diffusion layer constituting source/drain regions by performing ion-implantation of a second conductive type impurity in the semiconductor region using the gate electrode and the gate sidewall as masks.